AMENDMENTS TO THE SPECIFICATION:

Page 1, please add the following new paragraphs before paragraph [0001]:

[0000.2] CROSS-REFERENCE TO RELATED APPLICATIONS

[0000.4] This application is a 35 USC 371 application of PCT/DE 2004/001255 filed on June 17, 2004.

[0000.6] BACKGROUND OF THE INVENTION

Please replace paragraph [0001] with the following amended paragraph:

[0001] ~~Technical~~ **Field of the Invention**

Please add the following new paragraphs after paragraph [0001]:

[0001.2] This invention relates to an improved servo-valve, and more particularly to such a valve useful in a fuel injector equipped with a pressure booster.

[0001.4] Description of the Prior Art

Please replace paragraph [0002] with the following amended paragraph:

[0002] ~~Stroke-controlled~~ **Known stroke-controlled** high-pressure accumulator injection systems (common rail) can be used to inject fuel in direct-injecting internal combustion engines. These injection systems are distinguished by the fact that the injection pressure can be adapted to the load and speed of the engine. A high injection pressure is required in order to reduce emissions and to achieve high specific outputs. Since the achievable pressure level in high-pressure fuel pumps is limited for strength reasons, a further pressure increase in high-pressure injection systems (common rail) can be achieved by means of pressure boosters in injectors.

Please delete paragraph [0003].

Page 2, please replace paragraph [0005] with the following amended paragraph:

[0005] In fuel injectors, servo-valves can be used as on/off valves, which have a one-piece servo-valve piston whose control cross sections are embodied in a seat/slider design. In servo-valves of this kind, ~~which have a seat/slider design and are used as on/off valves,~~ a significant amount of wear on the slider surfaces can occur since only short overlap lengths can be achieved. In addition, in servo-valves with a seat/slider design, high demands are placed on manufacturing precision, particularly with regard to the position of the control edges of the servo-valve piston in relation to each other.

Please replace paragraph [0006] with the following amended paragraph:

[0006] ~~Depiction of the Invention~~ **SUMMARY OF THE INVENTION**

Please replace paragraph [0007] with the following amended paragraph:

[0007] The design proposed according to the present invention of an on/off valve, which is embodied as a servo-valve, in the form of a 3/2-way double seat valve for controlling a fuel injector, includes a valve ~~needle~~ **piston** to which a first ~~needle~~ **valve** piston is attached, which has a first sealing seat. The first ~~needle~~ **valve** piston is adjoined by an additional, second ~~needle~~ **valve** piston that performs the function of a sealing sleeve. The second ~~needle~~ **valve** piston has a second sealing seat embodied on it; the second ~~needle~~ **valve** piston is embodied **so that it is pressed** against a valve housing by a spring, which rests against the first ~~needle~~ **valve** piston, and, together with the valve housing against which it rests, constitutes the second sealing seat. Because of this embodiment of the valve ~~needle~~ **piston** of the 3/2-way double seat valve proposed according to the present invention, the second sealing seat closes after a significantly shorter partial stroke of the valve. Independent of the closing of the second sealing seat,

however, the first sealing seat continues to open until a much greater stroke is reached. The design proposed according to the present invention, in which an on/off valve that controls a fuel injector is embodied in the form of a 3/2-way double seat valve, permits an optimal injector tuning without large leakage quantities. The two-part servo-valve embodied according to the present invention can advantageously be used in fuel injectors equipped with a pressure booster, regardless of whether this is integrated into the fuel injector or mounted onto it, which injectors are triggered by means of a relief or exertion of pressure in the differential pressure chamber (return chamber) of the pressure booster.

Page 4, please replace paragraph [0009] with the following amended paragraph:

[0009] ~~Drawings~~ **BRIEF DESCRIPTION OF THE DRAWINGS**

Please replace paragraph [0010] with the following amended paragraph:

[0010] The present invention will be described in greater detail below, in conjunction with the drawings[[.]] **, in which:**

Please replace paragraph [0013] with the following amended paragraph:

[0013] ~~Embodiment Variants~~ **DESCRIPTION OF THE PREFERRED EMBODIMENTS**

Please delete paragraph [0014].

Please replace paragraph [0015] with the following amended paragraph:

[0015] **The depiction in Fig. 1 shows an exemplary embodiment of a 3/2-way double seat valve for a fuel injector.** [[A]] **The** fuel injector 1 includes a pressure booster 2 and an on/off valve, which is embodied in the form of a servo-valve 3. The servo-valve 3 can be actuated by

means of an actuator 4. ~~The actuator 4~~ **which** can be embodied in the form of either a solenoid valve or a piezoelectric actuator, possibly with the interposition of a hydraulic coupling chamber.

Please replace paragraph [0016] with the following amended paragraph:

[0016] The fuel injector 1 is supplied with highly pressurized fuel by means of a pressure accumulator 5 (common rail). Via a high-pressure line 6, the system pressure inside the pressure accumulator 5 prevails in the working chamber 7 of the pressure booster 2. The pressure booster 2 also includes a differential pressure chamber 8 (return chamber), which is separated from the working chamber 7 by a ~~booster piston 10, 11. The~~ two-part booster piston includes a first booster piston part 10 and a second booster piston part 11. A spring element 12 resting against the bottom of the differential pressure chamber 8 acts on the second booster piston part 11 and moves the booster pistons 10, 11 back in the direction of their idle position against a stop ring 13 seated in the working chamber 7.

Page 5, please replace paragraph [0018] with the following amended paragraph:

[0018] The nozzle chamber 17 encompasses an injection valve member 18, which is embodied in the form of a nozzle needle and has a pressure shoulder 19. From the nozzle chamber 17, an annular gap 20 extends to a seat 21 of the injection valve member [[8]] **18**. Underneath the seat 21, injection openings 22 are provided, through which fuel is injected into the combustion chamber of an internal combustion engine when the injection valve member 18 is lifted away from the seat 21. The end surface of the injection valve member 18 is acted on by a closing piston 23 whose spherically embodied end surface contacts the end surface of the needle-shaped injection valve member 18. The closing piston 23 contains an overflow throttle 24 via which a

through bore 27 of the closing piston 23 communicates with a chamber containing a spring element 25. The spring element 25 acts on the closing piston 23 in the closing direction. A control chamber line 15 containing a first throttle restriction 26 extends from the hydraulic chamber containing the spring element 25 to the differential pressure chamber 8 (return chamber) of the pressure booster 2.

Page 6, please replace paragraph [0019] with the following amended paragraph:

[0019] The pressure in the differential pressure chamber 8 of the pressure booster 2 is relieved via a discharge line 28, which feeds into a valve housing 29 of the servo-valve 3 at a junction point 40. The valve housing 29 of the servo-valve 3 ~~contains~~ **includes** a servo-valve piston 30[[.]] ~~The servo-valve piston 30 contains~~ **containing** a through conduit 31 that includes a second throttle restriction 32[[.]] ~~The second throttle restriction 32 is~~ located at the point at which the through conduit 31 opens out into a control chamber 33 of the servo-valve 3. A line that contains an outlet throttle 34 branches off from the control chamber 33 and leads into the first low-pressure return 35. The pressure in the control chamber 33 of the servo-valve 3 can be relieved by actuating the actuator 4, which can be embodied in the form of either a solenoid valve or a piezoelectric actuator.

Page 8, please replace paragraph [0025] with the following amended paragraph:

[0025] To trigger the pressure booster 2, the pressure in the differential pressure chamber 8 of the pressure booster 2 is relieved via the discharge line 28. To that end, the actuator 4, which is embodied in the form of either a solenoid valve or a piezoelectric actuator, is triggered so that

the first low-pressure return 35 is opened. Then fuel flows out of the control chamber 33 of the servo-valve 3 into the first low-pressure return 35 as a result of which the end surface of the first servo-valve piston 30 travels into the control chamber 33 of the servo-valve 3. When the first servo-valve piston 30 moves upward, the second sealing seat 50 is closed ~~sooner than~~ **before** the first sealing seat 38 is finished opening. As a result, a fuel volume flows out of the differential pressure chamber 8, via the discharge line 28, the junction point 40, and the annular chamber 39 into the second low-pressure return 37 so that the booster piston 10, 11 then travels into the compression chamber 9. As a result, fuel travels into the nozzle chamber 17 at a pressure that is increased in accordance with the boosting ratio of the pressure booster 2. This causes an increased hydraulic force acting on the pressure shoulder 9 in the opening direction to be exerted on the injection valve member 18, which opens, thus unblocking the injection openings 22 that are located under the seat 21 of the injection valve member 18 and lead into the combustion chamber of the engine.

Page 11, please add the following new paragraph after paragraph [0030:

[0031] The foregoing relates to preferred exemplary embodiments of the invention, it being understood that other variants and embodiments thereof are possible within the spirit and scope of the invention, the latter being defined by the appended claims.

Please delete pages 12, 13 and 14.